

WHAT IS CLAIMED IS:

*DATA* → 1. A monitor apparatus for a sequential-function-chart-type programmable controller, comprising:


a reference-active-time memory unit for storing a standard value of an active time of an arbitrary step in a sequential-function-chart program;

a timer for measuring the active time of the arbitrary step; and

an anomalous-state monitoring unit which detects an anomalous state of the arbitrary step through comparison between the active time measured by the timer and the reference value stored in the reference-active-time memory unit.

2. A monitor apparatus for a sequential-function-chart-type programmable controller according to Claim 1, further comprising a display unit for displaying the program in such a manner that a step which has been detected by the anomalous-state monitoring unit to be in an anomalous state is distinguished from other steps.

3. A monitor apparatus for a sequential-function-chart-type programmable controller according to Claim 2, further comprising an execution monitor unit for storing data indicating whether each step in the sequential-function-chart program has been executed, wherein the display unit displays the program in such a manner that a step or steps which have

*DATA*  been executed are distinguished from a step or steps which have not yet been executed, on the basis of the data stored in the execution monitor unit.

4. A monitor apparatus for a sequential-function-chart-type programmable controller according to Claim 3, wherein when conditions for transition from a certain step to the next step are satisfied, the execution monitor unit brings a corresponding execution-completion flag into a predetermined state to thereby memorize whether the step has been executed.

5. A monitor apparatus for a sequential-function-chart-type programmable controller, comprising:

an execution monitor unit for storing data indicating whether each step in the sequential-function-chart program has been executed; and

a display unit for displaying the program in such a manner that a step or steps which have been executed are distinguished from a step or steps which have not yet been executed, on the basis of the data stored in the execution monitor unit.

6. A monitor apparatus for a sequential-function-chart-type programmable controller according to Claim 5, wherein when conditions for transition from a certain step to the next step are satisfied, the execution monitor unit brings a corresponding execution-completion flag into a predetermined

~~state to thereby memorize whether the step has been executed.~~

*sub 1* 7. A monitor apparatus for a sequential-function-chart-type programmable controller, comprising:

a reference-active-time memory unit for storing a standard value of an active time of an arbitrary step in a sequential-function-chart program;

a timer for measuring the active time of the arbitrary step;

an anomalous-state monitoring unit which detects an anomalous state of the arbitrary step through comparison between the active time measured by the timer and the reference value stored in the reference-active-time memory unit;

an execution monitor unit for storing data indicating whether each step in the sequential-function-chart program has been executed; and

a display unit for displaying the program in such a manner that a step detected by the anomalous-state monitoring unit to be in an anomalous state, a step or steps which have been executed, and a step or steps which have not yet been executed are distinguished from one another.

8. A monitor apparatus for a sequential-function-chart-type programmable controller according to Claim 7, wherein when conditions for transition from a certain step to the next step are satisfied, the execution monitor unit brings a

